

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A method for transmitting non-real time traffic in a communications network, the network comprising a network core which includes a core source and a core destination, the core source and the core destination having a path therebetween, the path having one of a plurality of classes of transmission service, the non-real time traffic being received at the core source from a plurality of connections and each of the plurality of connections having one of the plurality of classes of transmission service, the method comprising the steps of:

- (a) at the core source, aggregating onto the path and into an aggregate traffic stream the non-real time traffic received from said plurality of connections ~~onto the path~~, the non-real time traffic being transmitted on the path as the aggregate traffic stream without regard to which of the plurality of connections the non-real time traffic is associated and without regard to the class of transmission service of such plurality of connections;
- (b) at the core destination, segregating the ~~non-real time traffic~~ aggregate traffic stream so transmitted on the path according to which of the plurality of connections the non-real time traffic is associated; and

wherein at least two of the plurality of connections do not respectively have a same class of transmission service, wherein flow control is applied to said aggregate traffic stream between the core source and the core destination to thereby regulate the rate of transmission of the non-real time traffic along the path, the flow control terminating at said core source and at said core destination and wherein the path is provisioned with a guaranteed transmission bandwidth.

Claim 2 (previously presented): The method of Claim 1, wherein the connection oriented communications network is an ATM network, the plurality of connections are Virtual Channel Connections (VCCs), the path is a non-real time Virtual Path Connection (VPC), the non-real

- 4 -

time traffic is ATM traffic and plurality of classes of transmission service are ATM service categories.

Claim 3 (previously presented): The method of Claim 2, wherein the flow control applied between the core source and the core destination includes a flow control algorithm whereby the rate of transmission of the non-real time traffic on the path is regulated by providing feedback information to the core source concerning congestion at a contention point on the path.

Claim 4 (previously presented): The method of Claim 2, wherein the flow control applied between the core source and the core destination includes a flow control algorithm whereby the rate of transmission of the non-real time traffic on the path is regulated by providing an explicit rate of transmission to the core source.

Claim 5 (previously presented): The method of Claim 4, wherein the non-real time Virtual Path Connection operates according to an Available Bit Rate (ABR) service category.

Claim 6 (previously presented): The method of Claim 1, wherein at least one of the plurality of connections aggregated onto the path is provisioned with a guaranteed bandwidth and the guaranteed transmission bandwidth of the path is obtained by summing the guaranteed transmission bandwidths for the at least one of the plurality of connections aggregated onto the path.

Claim 7 (previously presented): The method of Claim 6, wherein the guaranteed transmission bandwidth for the at least one of the plurality of connections is a guaranteed minimum transmission bandwidth and the guaranteed transmission bandwidth for the path is a guaranteed minimum transmission bandwidth.

Claim 8 (previously presented): The method of Claim 7, wherein transmission bandwidth in the network core is allocated between real time traffic and non-real time traffic, and wherein a share of the transmission bandwidth in addition to the guaranteed minimum transmission bandwidth for the path is made available to the path if the transmission bandwidth allocated to the real time traffic is unused.

123081-339566
TDO-RED #8255161 v. 1

- 5 -

Claim 9 (previously presented): The method of Claim 7, wherein a share of the transmission bandwidth in addition to the guaranteed minimum transmission bandwidth for one of the plurality of connections is made available to the one of the plurality of connections if the transmission bandwidth allocated to another of the plurality of connections is unused.

Claim 10 (previously presented): The method of Claim 5, wherein the core source to core destination flow control applied between the core source and the core destination is provided by a plurality of ABR flow control segments between the core source and the core destination.

Claim 11 (previously presented): The method of Claim 10, wherein the core source further comprises a set of queues each corresponding to one of the plurality of classes of transmission service that are associated with the plurality of connections, and wherein the non-real time traffic received over said each of the plurality of connections is queued in the queue associated with the class of transmission service associated with each connection before aggregating the non-real time traffic onto the path.

Claim 12 (previously presented): The method of Claim 10, wherein the core source further comprises a queue for said each of the plurality of connections and wherein the non-real time traffic received over said each of the plurality of connections is queued in the queue associated with the connection before aggregating the non-real time traffic onto the path.

Claim 13 (previously presented): The method of Claim 11, wherein traffic management is applied to the non-real time traffic at said core source.

Claim 14 (previously presented): The method of Claim 13, wherein the traffic management comprises scheduling of the plurality of connections onto the path.

Claims 15-24 (cancelled).

Claim 25 (currently amended): A communications network comprising a network core wherein traffic entering the network core is aggregated from a plurality of connections onto paths aggregate traffic streams within the network core and wherein traffic exiting the network core is segregated from said paths aggregate traffic streams onto connections outside the network core, the traffic comprising real time traffic and non-real time traffic, the non-real time traffic which

123081-339566
TDO-RED #8255161 v. 1

- 6 -

enters the network core and is aggregated onto a path an aggregate traffic stream is received from connections that each have one of a plurality of classes of transmission service such that at least two connections have classes of transmission service different from each other, the real time traffic and the non-real time traffic each being aggregated ~~onto~~ into respective real time paths aggregate traffic streams and non-real time paths aggregate traffic streams, each of the non-real time paths aggregate traffic streams having one of the plurality of classes of transmission service, each of the non-real time paths aggregate traffic streams is provisioned with a guaranteed transmission bandwidth, the real time traffic ~~on~~ in each real time path aggregate traffic stream being transmitted from a corresponding core source to a corresponding core destination according to a first class of path transmission service and the non-real time traffic on each non-real time path aggregate traffic stream being transmitted from a corresponding core source to a corresponding core destination according to a second class of path transmission service, and wherein flow control is applied to each non-real time aggregate traffic stream between the core source and the core destination corresponding to each non-real time path aggregate traffic stream to thereby regulate the rate of transmission of the non-real time traffic along associated with each said non-real time path aggregate traffic stream, the flow control terminating at said core source and at said core destination corresponding to each non-real time path aggregate traffic stream.

26. (new) A method of transmitting non-real time traffic across a core connection-oriented communication network, comprising:

- a) establishing an end-to-end connection between a source node and a destination node respectively at an edge of said core network, said connection having a maximum usable bandwidth and a minimum guaranteed bandwidth;
- b) at said source node, dynamically mapping all non-real time traffic flows for said destination node to said connection, based on a service category of each traffic flow of said non-real time traffic flows and a minimum guaranteed transmission rate for said connection;
- c) aggregating all said non-real time traffic flows into an aggregated traffic flow by distributing the minimum guaranteed bandwidth of said connection among said

- 7 -

non-real time traffic flows such that said each non-real time traffic flow receives a share of said minimum guaranteed bandwidth;

d) dividing any remaining bandwidth following said distribution of the minimum guaranteed bandwidth available on said connection among said non-real time traffic flows according to a fairness policy; and

e) routing said aggregated traffic flow along said connection toward said destination node, without differentiating among said non-real time traffic flows at any core node in the connection.

27. (new) The method of transmitting non-real time traffic across a core connection-oriented communication network as claimed in claim 26, wherein one service category of one traffic flow of said non-real time traffic flows is selected from CBR/rt-VBR, nrt-VBR, UBR and ABR.

28. (new) The method of transmitting non-real time traffic across a core connection-oriented communication network as claimed in claim 27, wherein the ABR service category supports:

a minimum cell rate (MCR) guarantee representing a static bandwidth required for the network to achieve a quality of service guarantee for constituent traffic flows;

dynamic bandwidth allocation allowing access to unused bandwidth in the network for ABR and UBR VCCs; and

network fairness through explicit rate (ER) bandwidth allocation.

29. (new) The method of transmitting non-real time traffic across a core connection-oriented communication network as claimed in claim 26, wherein the fairness policy performs flow control utilizing feedback information from the destination node for dividing said any remaining bandwidth.

30. (new) The method of transmitting non-real time traffic across a core connection-oriented communication network as claimed in claim 29, wherein flow control is explicit rate (ER) flow control.

- 8 -

31. (new) The method of transmitting non-real time traffic across a core connection-oriented communication network as claimed in claim 30, wherein division of said any remaining bandwidth is dynamically adjusted based on feedback from specific core nodes.

32. (new) The method of transmitting non-real time traffic across a core connection-oriented communication network as claimed in claim 31, wherein the connection is segmented due to flow control fragmentation.

* * *

123081-339566
TDO-RED #8255161 v. 1